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**TITLE: “The Quality of Life and Sustainable Development in the Cienega Region, of the state of Jalisco, Mexico:
Premise for an operative approximation to the concept of quality of life”**

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INTRODUCTION:

OBJECTIVES:

To develop a geographic atlas based on the concept of quality of life and sustainable development, in a region of the territory of Jalisco, México.

To analyze the space distribution and the temporal indicators of the Quality of Life, of the inhabitants of the Cienega Region, as an indispensable element of the sustainable development of the region.

METHODOLOGY:

The proper methodology of the Thematic Cartography, the cartographic method of investigation and geographic analysis.

The creation of a Geographic Atlas of special character that represents in cartographic manner, the temporal and spacial expression of the fundamental indicators of the Quality of Life in the region. This concept and its cartographic expression, is new and never applied to this moment to these studies in the country.

PRINCIPAL GEOGRAPHIC CONTRIBUTION:

The creation of a Geographic Atlas, stemming from a very new concept not yet applied for these studies in Mexico, that will provide the implementation of means and public politics that would enhance the Quality of Life in the region.

KEY WORDS:

Geographic Atlas, Quality of Life, Cartographic Method of Investigation, Sustainable Development.

CONTENT:

The concept of quality of life is a relatively new concept in the literature. At first, the term Quality of Life appears in public debates about the environment and the deterioration of urban living conditions. During the 50s and early 60s, the growing interest in learning about human welfare and concern for the consequences of the industrialization of society give rise to the need to measure this reality through objective data, and from the Social Sciences begins the development of social indicators to measure statistical data and facts relating to the welfare of a population.

These indicators had their own evolution being at first reference of objective conditions, both economic and social, for a second time contemplating subjective elements, which are apparently now have wider distribution.

The inclusion of the term in the first monographic U.S. magazine, "Social Indicators Research" in 1974 and "Sociological Abstracts" in 1985, will contribute to theoretical and methodological dissemination, becoming the decade of the 80 in the final takeoff research on the term.

However, the concept of quality of life is a relatively recent concept in contemporary literature.

For example, under the European Charter for Regional Planning, (Gómez Orea, D.1993) a Quality of Life has three interconnected aspects: income level, seen as essential for guaranteeing the basic needs of the population, working conditions and environmental quality.

PROBLEM:

The quality of life in the region has been analyzed in a tentative way in Regional Development Plan of Region 04 Cienega Jalisco State. This paper presents a series of indicators called "Quality of Life Indicators."

Our purpose, is headed for a deeper analysis of issues such as perception and environmental position of the inhabitants of the region, labor discrimination, school, women, food issues, schooling, instruction and education and housing and social exclusion, to name a few, to achieve an operational concept and defining a reference position for this term, of an objective, which can display a geographical atlas Quality of Life, the nature and extent of these incidents in the region.

RESULTS:

DEFINITION OF THE STUDY AREA:

The regionalization process involves the division of the state into geographical areas with similar characteristics and similar in terms of the natural environment, production, trade and customs and habits. The Regional Development Plan of the State of Jalisco, is the expression and continuity Regionalization Strategy undertaken since 1997. The Regional Development Plan of the State of Jalisco, is the expression and continuity Regionalization Strategy undertaken since 1997. The state was divided into 12 regions, corresponding to Region 04 Cienega, the municipalities of: Atotonilco el Alto, Ayotlán, Degollado, La Barca, Chapala, Jamay, Jocotepec, Ocotlan, Poncitlán, Tiozapán Alto, Tototlán, Tuxcueca and Zapotlán del Rey. These municipalities are bordering Lake Chapala The region in turn, is part of the Watershed Lerma-Chapala-Santiago, which occupies part of the states of Mexico, Guanajuato, Jalisco, Michoacan and Nayarit. (Macias, L.A, Márquez, A., 2007).

Cienega Region has a land area of 4,492 km². Bordered on the south by the Michoacán state and the southeast region of the state of Jalisco, to the west with the South and Central regions of the state of Jalisco, to the north by the regions

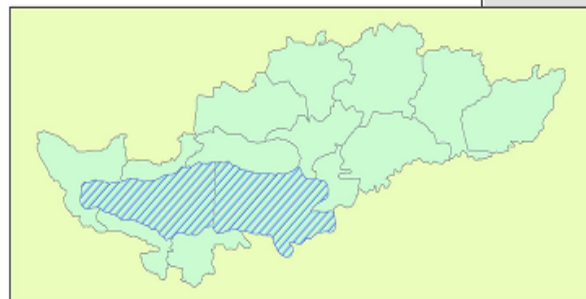
Central and South Altos de Jalisco and east by the states of Michoacan and Guanajuato.

The Cienega region represents 6.1% of the state of Jalisco. It is 7.2% of the population of the same. In this region is 6.5% of the population Activa. The main economic activities are mainly Agricultural Production, Livestock and Industrial Production. The region is part of Lerma-Chapala him that is of great importance for the whole country and whose center is precisely this body of water, the largest country that is Lake Chapala.

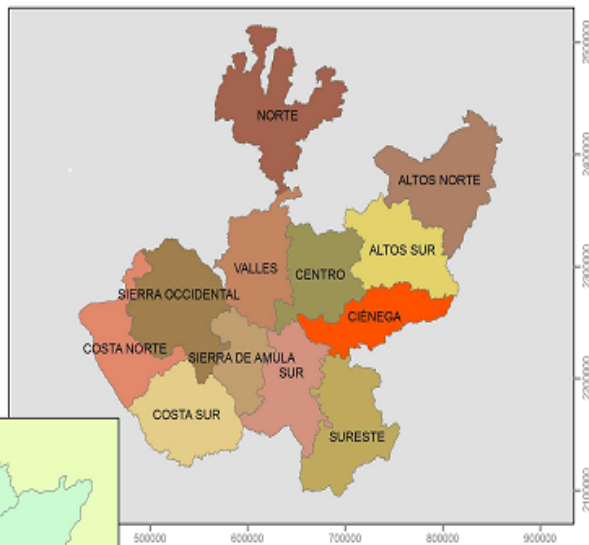
The historical growth of this great river has done so largely unregulated, consequently resulting in a significant loss of environmental values of the land, the degradation of ecosystems, the loss of environmental services and the increased vulnerability of the basin.

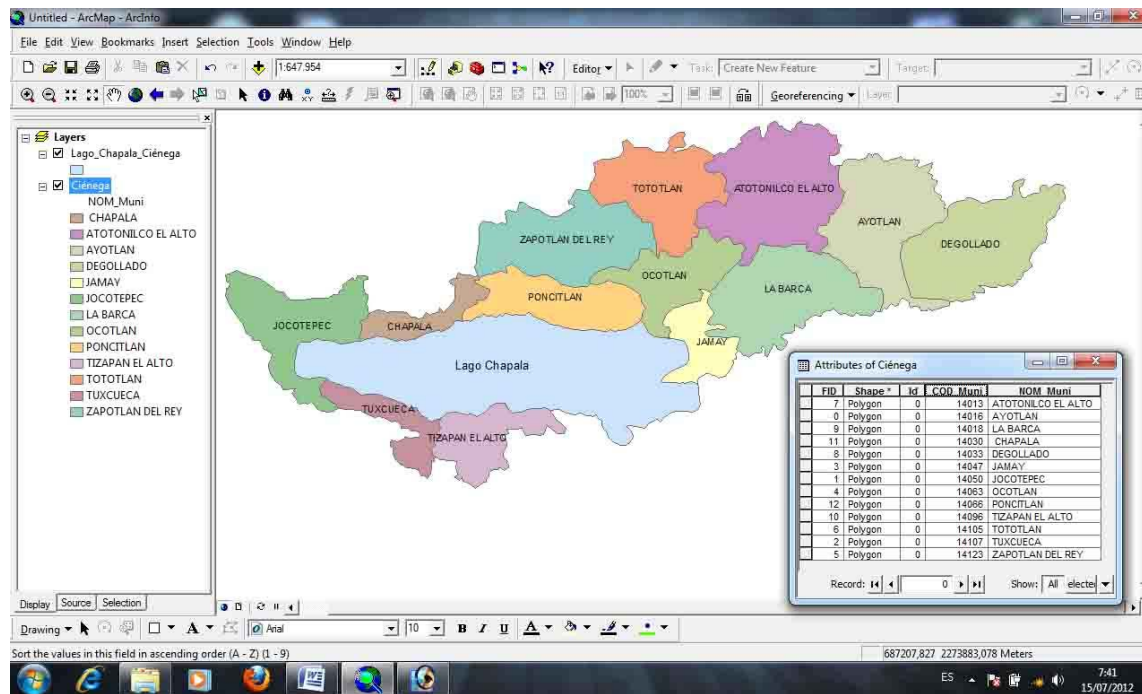
Location of the state of Jalisco in Mexico, Cienega region in the state of Jalisco and the municipalities in the region around Lake Chapala.

Regiones



Estado de Jalisco





POPULATION:

For the preparation of the Atlas of Quality of Life in the Region Ciénega and its relationship to sustainable development base our reflections on the analysis of aspects such as perception and environmental position of the inhabitants of the region, marginalization work, school, the women, the problems of food, schooling, instruction and education as well as housing and social exclusion.

SURFACE OF THE MUNICIPALITIES OF THE REGION CIENEGA

Municipality	Area in km2	% off regional total	Altitude (mt above sea level)
Atotonilco el Alto	638,15	13,04	1250
Ayotlán	518,57	10,60	1600
La Barca	379,48	7,76	1520
Chapala	358,58	7,88	360

Degollado	303,5	6,24	1780
Jamay	174,49	3,57	1530
Jocotepec	384,36	7,86	1540
Ocotlán	247,70	5,06	1540
Poncitlán	672,61	13,75	1520
Tizapán el Alto	273,32	5,59	1550
Tototlán	292,85	5,99	1540
Tuxcueca	298,94	6,11	1530
Zapotlán del Rey	320,90	6,56	1550

TOTAL POPULATION 1950-2005 (By municipality)

	Municipio						
		1950	1960	1980	1990	2000	2005
	Región						
	Ciénega	197,216	249,815	343,550	396,176	454,088	463,039
	Atotonilco el						
	Alto	27,562	32,845	40,619	46,513	51,798	52,204
	Ayotlán	18,898	22,991	27,080	30,740	35,432	35,150
	Barca, La	30,448	37,637	46,666	52,845	59,086	59,990
	Chapala	12,361	16,363	30,629	35,578	43,444	43,345
	Degollado	12,085	15,191	18,262	20,405	21,044	19,173
	Jamay	10,057	12,027	16,848	19,145	21,157	21,223
	Jocotepec	15,567	18,953	24,746	30,928	35,713	37,972
	Ocotlán	22,136	31,916	59,196	69,646	84,200	89,340
	Poncitlán	13,239	17,268	26,905	32,259	40,827	43,817
	Tizapán el						
	Alto	10,015	14,415	17,531	19,598	19,766	19,076
	Tototlán	10,899	13,744	17,419	18,717	20,034	19,710
	Tuxcueca	4,759	5,528	5,604	5,548	6,109	5,765
	Zapotlán del						
	Rey	9,190	10,937	12,045	14,254	15,478	16,274

Table: TOTAL SURFACE AND ALTITUDE BY REGION MUNICIPALITIES CIÉNEGA

Municipality	Superficie en km2	% Of regional total	Altitude (mt above sea level)
Atotonilco el Alto	638,15	13,04	1250
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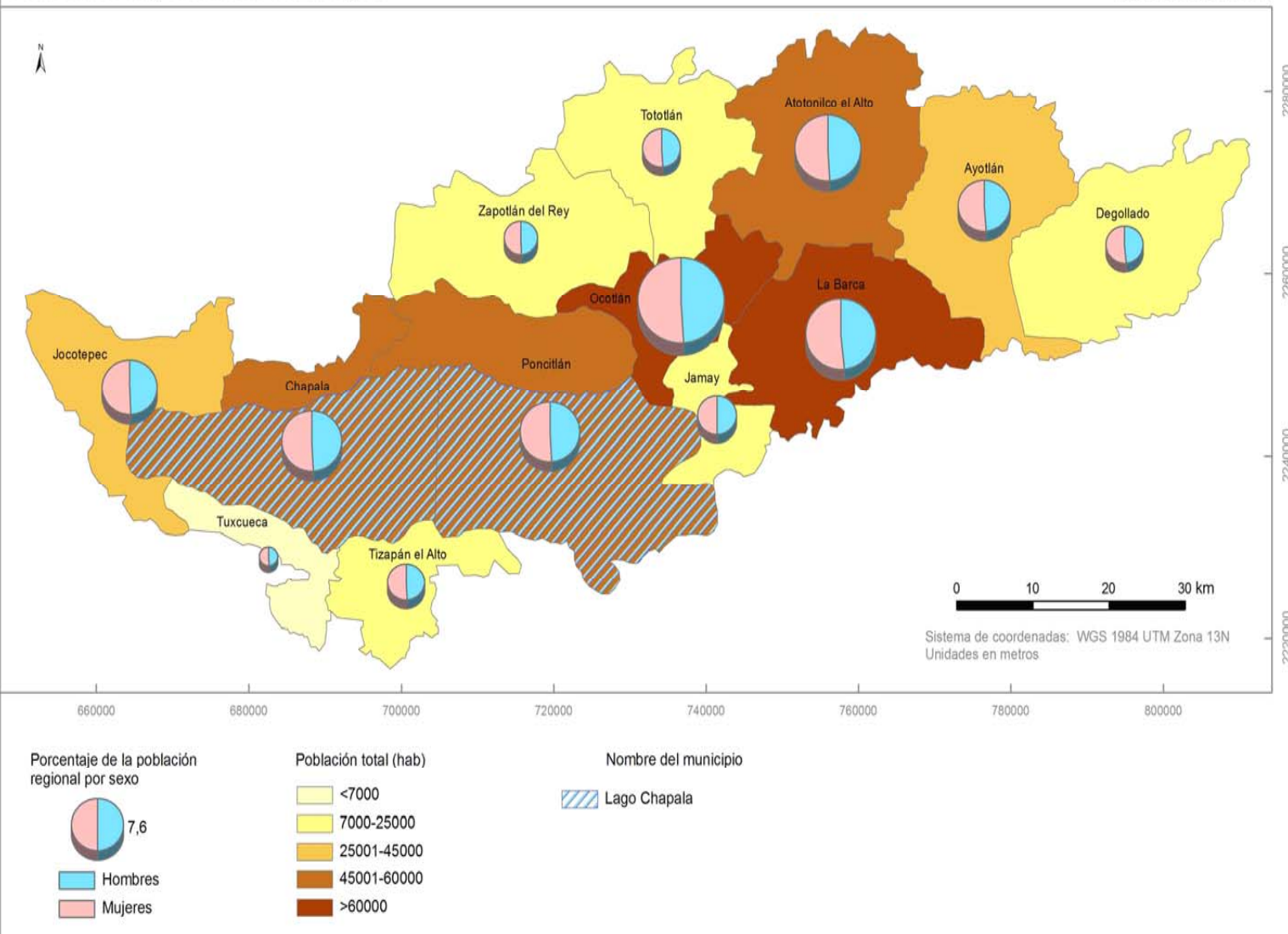
Source: State Population Jalisco Council (COEPO)

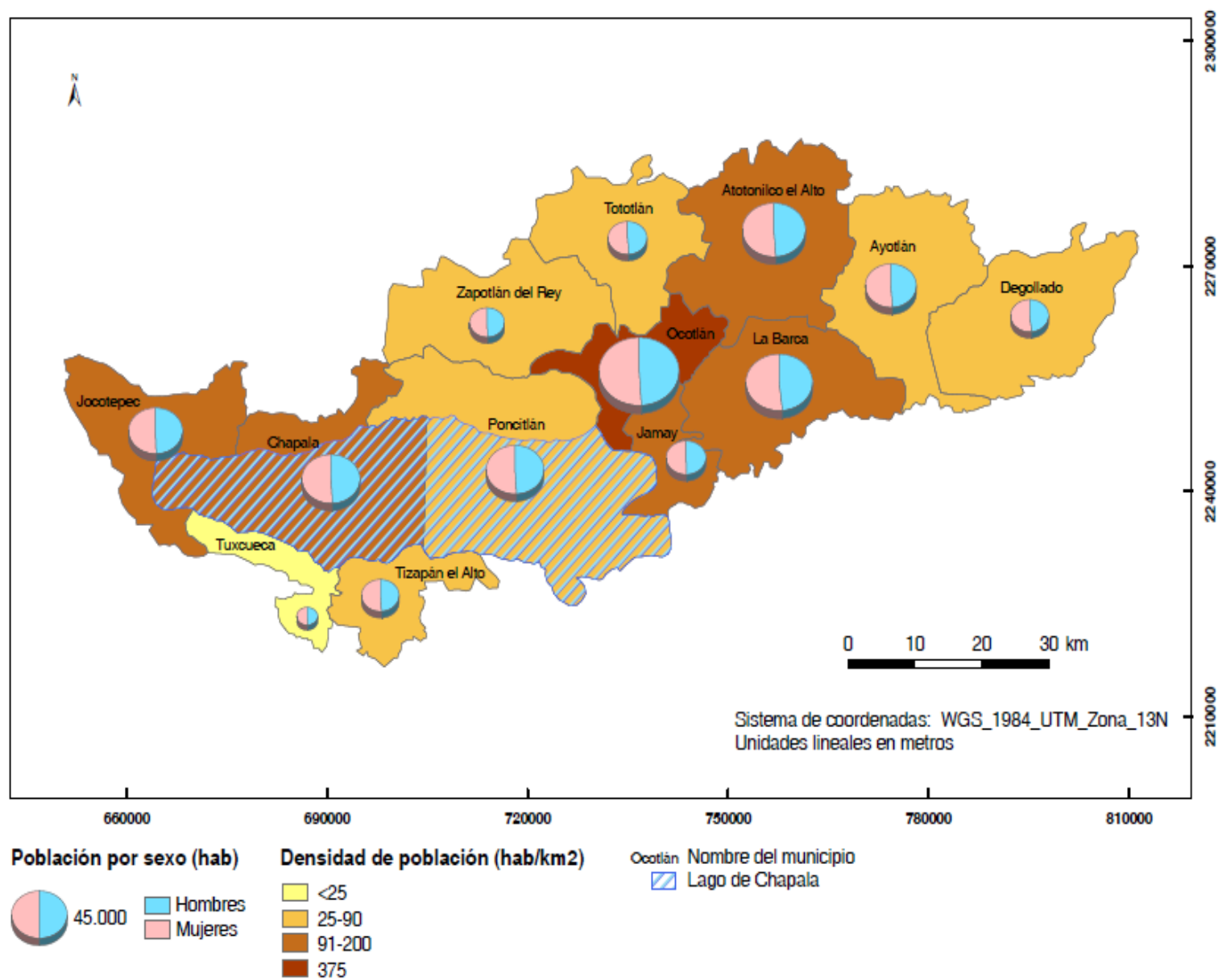
As shown in the table and on the map, the town of Ocotlan is the most populous, followed by La Barca and Atotonilco el Alto. These three municipalities represent 43.5% of the total population of the region.

It may also be noted that six of the thirteen municipalities experienced decreases in their population growth rates. 2030 is projected to decline of population in the age of 0-14 years and the PEA, 15-64 years and a substantial increase in the group of people aged 65 years and more, which will almost double in the period compared to the year 2007.

Población total y su relación con la región

Región de la Ciénega





SOCIAL WELFARE INDICATORS:

INFANT MORTALITY RATE:

INFANT MORTALITY RATE IN JALISCO 2005 (by municipalities)

KEY	MUNICIPALITY	Infant mortality rate (IMR)
	Mexican Republic	16,76
	Jalisco	15,25
039	Guadalajara	6.97
013	Atotonilco el Alto	22.40
016	Ayotlán	25.82
018	La Barca	18.56
030	Chapala	15.09
033	Degollado	23.63
047	Jamay	14.78
050	Jocotepec	21.88
063	Ocotlán	15.13
066	Poncitlán	25.39
096	Tizapán el Alto	23.61
105	Tototlán	21.77
107	Tuxcueca	26.07
123	Zapotlán del Rey	22.47

Fuente: INEGI-XII Censo de Población y Vivienda, 2005

The infant mortality rate is usually taken as an expression indicating the degree of development of a country.

Looking at the rates of infant mortality table Cienega Region, we find that generally behave above the Latin American

average. It is significant that the city of Guadalajara, just 80-100 km, of most of the municipalities in the region, this infant mortality rate two to four times lower than that of the municipalities in its area of influence.

HUMAN DEVELOPMENT IN THE REGION CIENEGA:

Human development is a broad concept that encompasses many different capacities, including three that are crucial for people to reach their potential:

- The possibility of having a long and healthy life,
- The acquisition of valuable knowledge for the individual and society,
- And the opportunity to obtain the necessary resources to enjoy a decent standard of living.

HUMAN DEVELOPMENT INDEX AND DELAY SCHOOL FOR MUNCICIOPIOS (2005)

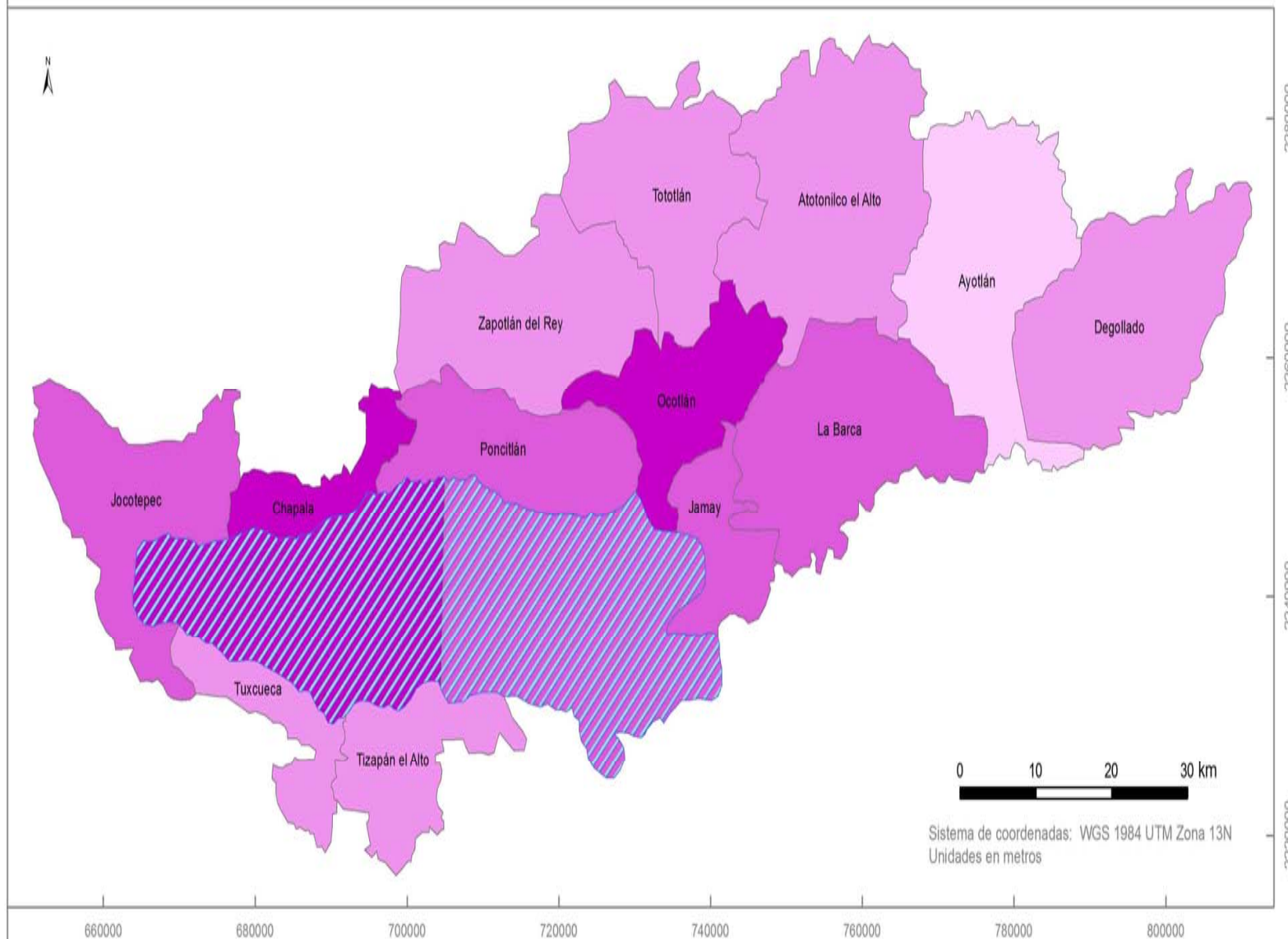
Municipa lity	IDH	TMI	Literacy Rate	Attendan ce rate.	Entry dollar per capita annual
Atotonilco el Alto	0,7787	22,40	89,37	59,16	7,031
Ayotlán	0,7433	25,82	86,18	56,30	5, 641
La Barca	0,7976	18,56	90,05	63,42	8,583
Chapala	0,8466	15,09	93,96	62,63	12 703
Degollado	0,7658	23,63	87,74	56,95	6,636
Jamay	0,8120	14,78	90,94	59,64	8,048
Jocotepec	0,7916	21,88	91,53	58,73	7, 990
Ocotlán	0,8388	15,13	93,91	65,20	10,552
Poncitlán	0,7826	25,39	90,28	61,09	8,175
Tizapán el Alto	0,7632	23,61	88,45	57,25	6, 115
Tototlán	0,7736	21,77	88,94	56,63	5,661

Tuxcueca	0,7791	26,07	92,10	61,07	7,388
Zapotlán del Rey	0,7708	22,47	88,15	57,42	6,663

Jalisco Human Development Report 2009

Índice de desarrollo humano (IDH)

Región de la Ciénega



Índice de desarrollo humano (IDH)

Nombre del municipio

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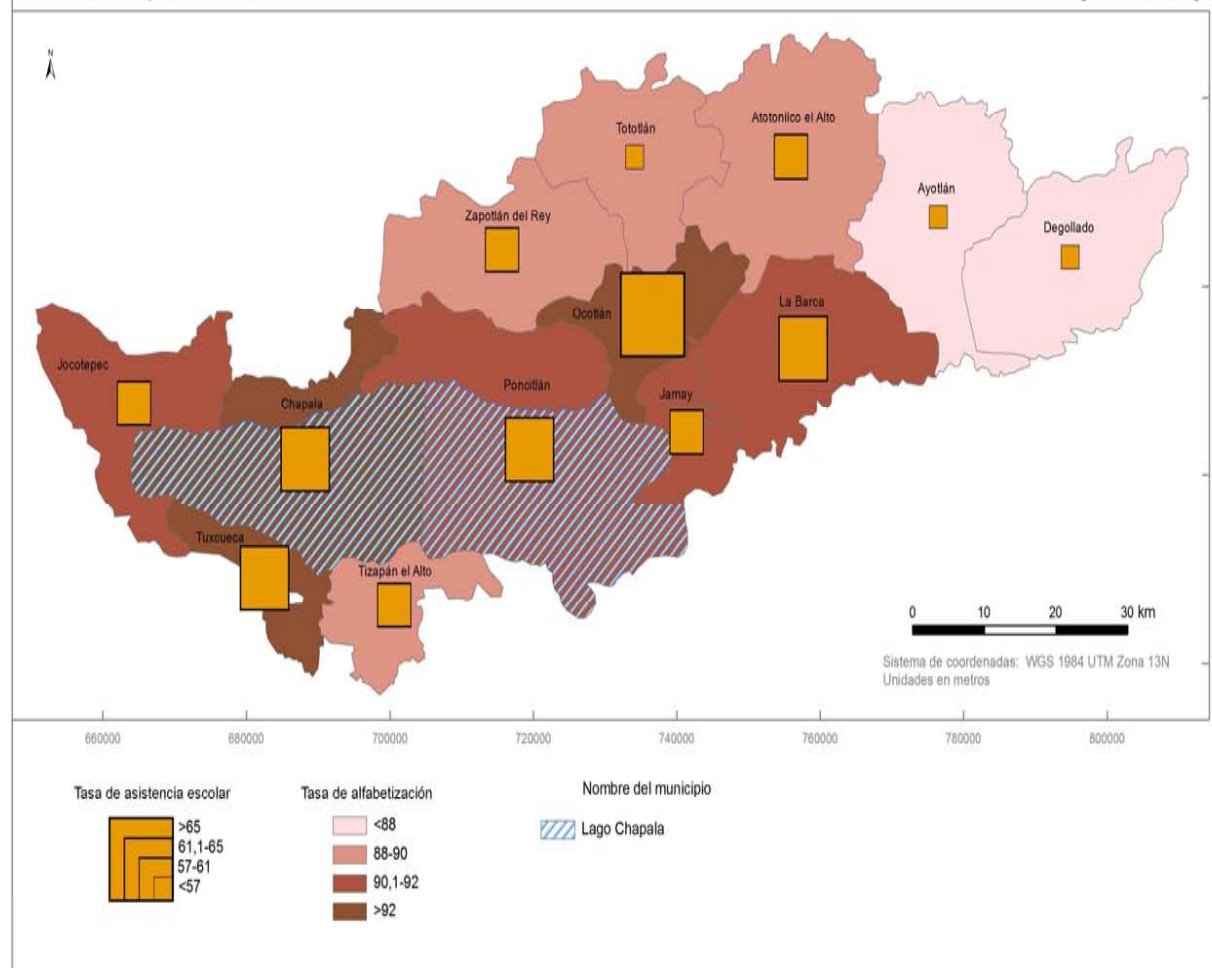
0.75-0.78

0.781-0.82

Lago Chapala

Alfabetización y asistencia escolar

Región de la Ciénega



It can be observed after a brief review of the table and the map, that the Human Development Index in the region can be considered medium, although it is clear that at this level there are regional differences in the study area. There is a group of municipalities with more benefits and other indicators that are lagging behind, some indicators quite depressed.

Chapala, Ocotlan, Jamay and La Barca make a layer of characteristics of quality of life, based on the indicators analyzed, higher than the rest of the region.

At a second level, we find Poncitlán, Jocotepec and Atotonilco the High. The other municipalities make up our third regional trial more depressed.

POVERTY LEVELS IN THE REGION CIÉNEGA: POPULATION AND INCOME POVERTY BY MUNICIPALITIES.

Municipio	Pobreza alimentaria	Pobreza de capacidades	Pobreza de patrimonio
Atotonilco el Alto	19,2	26,9	57,8
Ayotlán	19,6	26,9	50,1
La Barca	19,1	29,0	58,3
Chapala	10,4	16,7	40,6
Degollado	16,9	23,3	44,1
Jamay	14,7	24,1	55,0
Jocotepec	22,1	31,7	59,8
Ocotlán	10,1	17,6	45,8
Poncitlán	25,5	32,2	52,3
Tizapán el Alto	18,2	24,7	45,7
Tototlán	17,3	23,8	45,0
Tuxcueca	22,4	29,5	50,8
Zapotlán del Rey	24,5	32,8	57,0

CONEVAL, 2007, POVERTY IN MEXICO MAPS

- a) Food poverty, defined as the inability to obtain a basic food basket, even using all disposable income;
- b) Capability poverty, insufficient to purchase basic goods and also make the costs needed in education and health
- c) Poverty equity, insufficient income to purchase the basic food basket, for health expenses, clothing, housing, transportation and education, etc..

With regard to the three levels of poverty seen in the table, we can realize that Chapala and Ocotlán, as in almost all indicators show the higher quality figures.

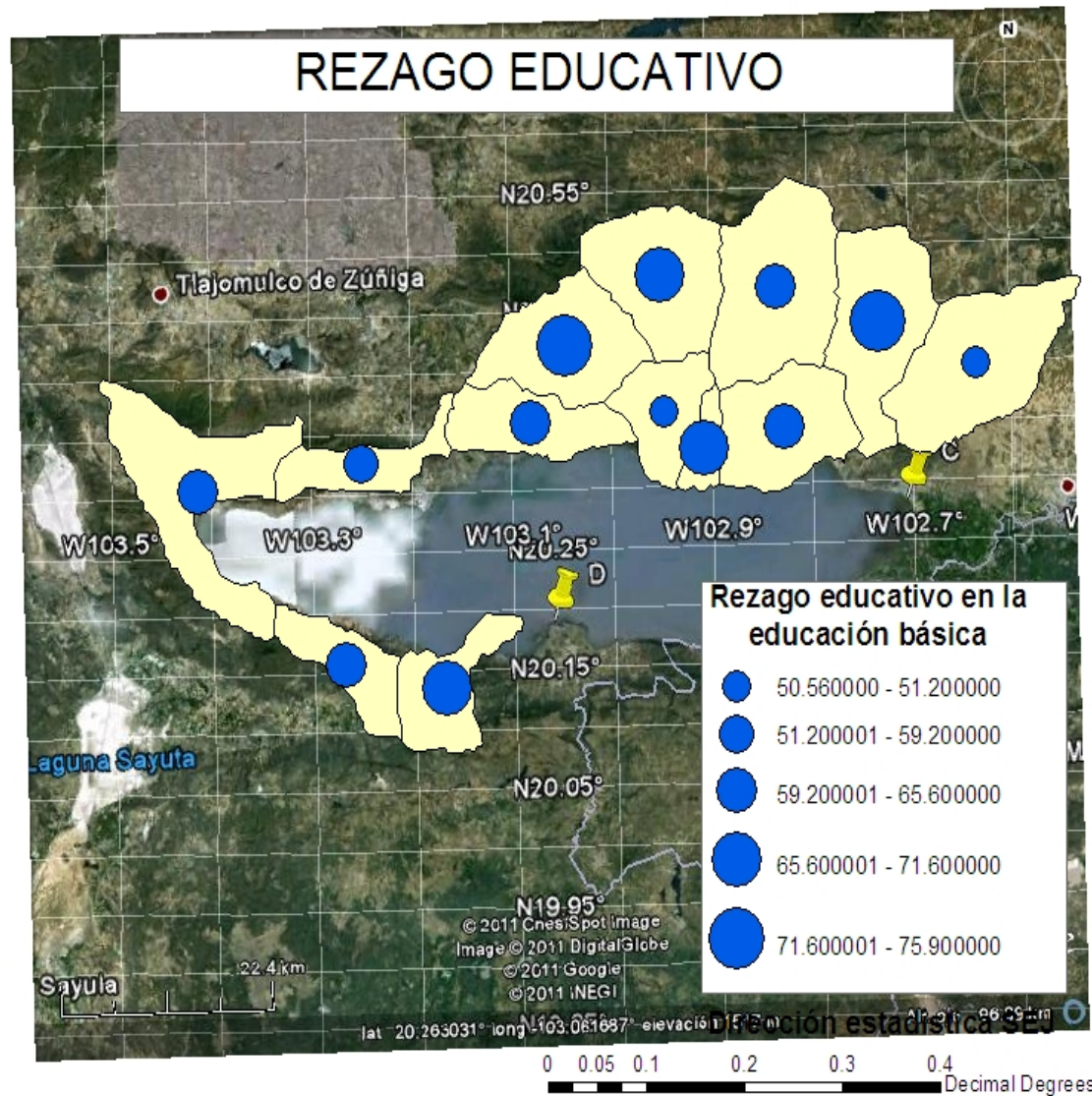
DELAYS EDUCATION BASIC EDUCATION 2005

Municipality	From 15 years and over	Illiterate%	No Primary completion %	No school completed %	Educational backwardness
Atotonilco el Alto	34,608	10,5	25,4	28,8	64,7
Ayotlán	22,781	13,7	30,4	31,8	75,9
La Barca	40,353	9,9	22,98	26,3	59,2
Chapala	28,773	5,9	18,3	26,3	50,56
Degollado	12,503	12,15	27,6	31,8	71,6
Jamay	14,007	9,1	22,3	33	64,4
Jocotepec	24,166	8,4	24,8	30,2	63,45
Ocotlán	59,999	6,1	17,1	28	51,2
Poncitlán	27,024	9,7	22,9	30,2	62,8
Tizapán el Alto	12,650	11,48	27,85	31,2	70,6
Totlán	13,108	11,02	27,3	31,0	69,42
Tuxcueca	3,846	7,9	26,7	31,0	65,6

Zapotlán del Rey	10,724	11,8	29,1	33,6	74,5
Total	304 542	9,2%	23,2%	29,3%	61,6%

Source: Statistics SEJ

REZAGO EDUCATIVO



With regard to educational backwardness, we see the same regional grouping, Chapala and Ocotlan at a first level and Atotonilco el Alto, La Barca, Jamay, Poncitlán, Jocotepec, Tototlán and Tuxcueca with levels above 60% and the rest above 70 %.

AVERAGE GRADE EDUCATION

Municipality	Year 2005
Atotonilco el Alto	6,3
Ayotlán	5,3
La Barca	6,7
Chapala	7,8
Degollado	5,5
Jamay	6,5
Jocotepec	6,6
Ocotlán	7,9
Poncitlán	6,5
Tizapán el Alto	5,8
Tototlán	5,9
Tuxcueca	6,3
Zapotlán del Rey	5,4
Total Estatal	6,3

Source: Statistics of the SEJ

Regarding the average schooling level by municipality in the region, and Ocotlan Chapala again show a higher figure for this indicator, while the municipalities of Atotonilco, Jamay, Jocotepec, Poncitlán, and Tuxcueca, show levels around 6% and the rest is kept close to 5%.

OVERCROWDING BY PERCENTAGE OF HOUSING (2005)

MUNICIPALITY	% HOUSING WITH SOME LEVEL OVERCROWDING
Atotonilco el Alto	45,69
Ayotlán	52,14
La Barca	41,97
Chapala	40,02
Degollado	48,15
Jamay	47,90
Jocotepec	48,48
Ocotlán	40,26
Poncitlán	50,58
Tizapán el Alto	46,63
Tototlán	46,46
Tuxcueca	38,23
Zapotlán del Rey	50

Source: INEGI, XII Census of Population and Housing, 2005

In this case, together with Chapala Ocotlán cifras appears even lower than these two municipalities, the municipio of Tuxcueca. Above 50% are the municipalities of Atotonilco el Alto, Zapotlán Ayotlán King and concentrating the other between 40 and 50%.

SERVICE COVERAGE TUBED WATER, SEWER AND WASTEWATER BY municipio (2005)

MUNCICIPIO	<i>Water coverage tubed</i>	Coverage of drain connected to the public network	Sanitation coverage
Atotonilco el Alto	88,89	83,46	53,36
Ayotlán	97,77	85,12	0
La Barca	96,48	92,91	58,69
Chapala	93,86	84,00	82,01
Degollado	93,61	66,88	0
Jamay	97,82	94,03	77,80
Jocotepec	92,04	85,35	77,18
Ocotlán	90,00	88,13	91,90
Poncitlán	94,48	78,48	68,94
Tizapán el Alto	96,87	77,59	84,64
Tototlán	79,91	82,93	56,56
Tuxcueca	91,34	59,46	35,07
Zapotlán del Rey	97,02	84,73	0

Fuente: CEA Sistema Integral de Información de Coberturas de Agua del Estado de Jalisco

With regard to municipal services, piped water coverage has a maximum in municipalities that are not noted for the excellence of its indicators, as Zapotlán del Rey with 97.02%, with 97.77 Ayotlán Degollado, with 93.61 Tizapán the

Alto, with 96.87, while Ocotlan and Chapala, which normally have the highest indicators in the region, have only 90.0 and 93.86 respectively. In general the situation of this indicator is quite acceptable in the region.

CONCLUSIONS

It appears from the data obtained from the information obtained from the Regional Development Plan, summarized here, the more environmentally compromised situation in the region is located in the municipalities in which agriculture is developed with greater emphasis.

Population density is significant in almost half of the municipalities: Ocotlán (with higher 375 hab/k²) and the rest low.

The rate of population growth in the region is moderate to low.

The population growth is proportionally lower in municipalities with quality of life indicators above, as Ocotlan, Chapala, La Barca, Jamay and Poncitlán.

The Human Development Index is highest in the municipalities of Ocotlan and Chapala, the best indicators of life in the region, followed by the municipalities of Jamay, La Barca, Poncitlán and Jocotepec

The Human Development Index is highest in the municipalities of Ocotlan and Chapala, the best indicators of life in the region, followed by the municipalities of Jamay, La Barca, Poncitlán and Jocotepec.

If we look at the corresponding table, the infant mortality rate has variation important in the region, which show significant regional differences in this indicator, which show differences in the quality of life being municipalities in the region.

With respect to per capita income, we note again that Ocotlan, Chapala, Jamay, La Barca and Poncitlán have the highest per capita income in the region, well above the rest of the municipalities of La Cienega.

If we analyze the literacy rate, another important indicator of the quality of life, according to the criterion adopted, will realize that the more elevated indicators are found in the municipalities of Ocotlan, Chapala, Jamay, Poncitlán and La Barca. He joined the group Tuxcueca township.

The educational gap is much smaller, in the municipalities of Ocotlan, Chapala and La Barca.

The average level of education is above average in the municipalities of Ocotlan, Chapala, Jamay, La Barca, Poncitlán y Jocotepec.

In the field of quality of life and environmental aspects, if we analyze the level of housing by housing more favorable indicators include the municipalities of Ocotlan, Chapala, La Barca and Tuxcueca.

Regarding the level of coverage of piped water services to homes and connection to the public network, the regional coverage is fairly homogeneous. With regard to sanitation coverage, the highest levels are found in the municipalities of Ocotlan, Chapala and Tizapán the Alto.

We have seen that the reality of the region, from the standpoint of physical-geographical, but mostly from the socioeconomic point of view, to monitor the occurrence of features of the phenomena that we have defined in our definition of Quality of Life: Level Income, Education, Environmental Conditions that allow us to identify deep differences between the municipalities at the regional level, which lead us to identify differences in the quality of life this indicator, between the municipalities of the region, with more advanced group of municipalities in their indicators, as Ocotlan, Chapala, La Barca, Poncitlán and Jamay and other municipalities in the region with a significant lag in their quality of life indicators.

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